

Publication List

Davide M. Raimondo

BIBLIOMETRIC PROFILE

Davide M. Raimondo currently (January 15, 2019) has an h index of 20 (Scopus) - 26 (Google Scholar) and a number of citations equal to 1803 (Scopus) - 2840 (Google Scholar).¹

Books	Citations Scopus	Citations Scholar Google
1. L. Magni, D.M. Raimondo, F. Allgower (EDS), Nonlinear model predictive control: Towards new challenging applications , Springer Lecture Notes in Control and Information Sciences series, vol. 384, 2009		166

International Journals	Citations Scopus	Citations Scholar Google	Impact Factor
1. I.D. Campbell, K. Gopalakrishnan, M. Marinescu, M. Torchio, G.J. Offer and D.M. Raimondo, Modelled Optimal Layer Configuration of Lithium-ion Cells: Fast Charging, Plating Avoidance & Common Module Design for Electric Vehicles , Journal of Energy Storage, accepted			
2. A. Pozzi, G. Ciaramella, S. Volkwein, D.M. Raimondo, Optimal design of experiments for a lithium-ion cell: parameters identification of a single particle model with electrolyte dynamics , Industrial & Engineering Chemistry Research, accepted			
3. F. Boem, A.J. Gallo, D.M. Raimondo and T. Parisini, Distributed Fault-Tolerant Control of Large-Scale Systems: an Active Fault Diagnosis Approach , IEEE Transactions on Control of Network Systems, accepted			
4. G. Galuppini, L. Magni, D.M. Raimondo, Model Predictive Control of Systems with Actuators Subject to Dead-Zone and Saturation: Robustness Analysis and Experimental Validation , Control Engineering Practice, 78, 56–64, 2018			

¹ According to Google Scholar Metrics, the top journals in the field of Automation & Control Theory are Automatica (impact factor 3.635) and IEEE Transactions on Automatic Control (impact factor 2.777).

5. M. Torchio, L. Magni, R.D. Braatz, D.M. Raimondo, Design of Piecewise Affine and Linear Time Varying based Model Predictive Control Strategies for Advanced Battery Management Systems , Journal of Electrochemical Society, 164 (4), A949-A959, 2017	1	1	3.259
6. G.R. Marseglia, D.M. Raimondo, Active fault diagnosis: a multi-parametric approach , Automatica, 79, 223-230, 2017	1	1	5.451
7. D.M. Raimondo, G.R. Marseglia, R.D. Braatz, J.K. Scott, Closed-Loop Input Design for Guaranteed Fault Diagnosis using Set-Valued Observers , Automatica, 74, 107-117, 2016	4	6	5.451
8. M. Torchio, L. Magni, B. Gopaluni, R.D. Braatz, and D.M. Raimondo, LIONSIMBA - a Matlab framework based on a finite volume model suitable for Li-ion battery design, simulation, and control , Journal of Electrochemical Society, 163 (7), A1192-A1205, 2016	6	10	3.259
9. J.K. Scott, D.M. Raimondo, G.R. Marseglia, R.D. Braatz, Constrained Zonotopes: A New Tool for Set-Based Estimation and Fault Detection , Automatica, 69, 126-136, 2016	8	12	5.451
10. D.M. Raimondo, M. Rubagotti, C.N. Jones, L. Magni, A. Ferrara, M. Morari, Multirate sliding mode disturbance compensation for model predictive control , International Journal of Robust and Nonlinear Control, 25(16), 2984-3003, 2015	2	6	3.393
11. N. Kariotoglou, D.M. Raimondo, S. Summers, J. Lygeros, Design of intelligent surveillance systems using stochastic reachability and hierarchical task allocation , Journal of Dynamic Systems, Measurement, and Control, 137(3), 031008, 2015	4	11	1.388
12. H. Zisser, E. Renard, B. Kovatchev, C. Cobelli, A. Avogaro, R. Nimri, B.A. Buckingham, H.P. Chase, F.J. Doyle III, J. Lum, P. Calhoun, C. Kollman, E. Dassau, A. Farret, J. Place, M. Breton, C. Dalla Man, S. Del Favero, D. Bruttomesso, A. Filippi, R. Scotton, L. Magni, C. Toffanin, D.M. Raimondo, G. De Nicolao, M. Phillip, E. Atlas, I. Muller, S. Miller, R.W. Beck, Control to Range Study Group, Multi-center Closed-Loop Insulin Delivery Study Identifies Challenges for Keeping Blood Glucose in a Safe Range by a Control Algorithm in Adults and Adolescents with Type 1 Diabetes From Various Sites , Diabetes Technology and Therapeutics, 16 (10), 613-622, 2014	18	29	2.698
13. H.P. Chase, F.J. Doyle, III, H. Zisser, E. Renard, R. Nimri, C. Cobelli, B.A. Buckingham, D.M. Maahs, S. Anderson, L. Magni, J. Lum, P. Calhoun, C. Kollman, R.W. Beck, Control to Range Study Group, Multicenter closed-loop/hybrid meal bolus insulin delivery with type 1 diabetes , Diabetes Technology and Therapeutics, 16 (10), 623-632, 2014	20		2.698

14. M. Jiang, X. Zhu, M. Molaro, M. Rasche, H. Zhang, K. Chadwick, D.M. Raimondo, K.K.K. Kim, L. Zhou, Z. Zhu, M. Wong, D. O'Grady, D. Hebrault, J. Tedesco, R.D. Braatz, Modification of Crystal Shape through Deep Temperature Cycling , Industrial & Engineering Chemistry Research, 53(13), 5325-5336, 2014	20	22	2.843
15. J. K. Scott, R. Findeisen, R. D. Braatz, D. M. Raimondo, Input Design for Guaranteed Fault Diagnosis Using Zonotopes , Automatica, 50(6), 1580-1589, 2014	34	48	5.451
16. M. N. Zeilinger, D. M. Raimondo, A. Domahidi, M. Morari, C. N. Jones, On Real-time Robust Model Predictive Control , Automatica, 50(3), 683-694, 2014	33	54	5.451
17. D. Axehill, T. Besselmann, D. M. Raimondo, M. Morari, A Parametric Branch and Bound Approach to Suboptimal Explicit Hybrid MPC , Automatica, 50(1), 240-246, 2014	16	24	5.451
18. F. Tedesco, D. M. Raimondo, A. Casavola, Collision avoidance command governor for multi-vehicle unmanned systems , International Journal of Robust and Nonlinear Control (IJRNC), 24(16), 2309-2330, 2014	6	7	3.393
19. M. Rubagotti, D.M. Raimondo, A. Ferrara and L. Magni, Robust model predictive control with integral sliding mode in continuous-time sampled-data nonlinear systems . IEEE Transactions on Automatic Control, 56(3), 556-570, 2011	56	71	4.270
20. L. Magni, D. M. Raimondo, C. Dalla Man, G. De Nicolao, B. Kovatchev, C. Cobelli, Model Predictive Control of glucose concentration in type I diabetic patients: an in silico trial , Biomedical Signal Processing and Control, 4(4), 338-346, 2009 (invited contribution)	101	134	2.214
21. G. Pin, D. M. Raimondo, L. Magni, T. Parisini, Robust Model Predictive Control of Nonlinear Systems with Bounded and State-Dependent Uncertainties , IEEE Transactions on Automatic Control, 54(7), 1681-1687, 2009	47	67	4.270
22. D. M. Raimondo, D. Limon, M. Lazar, L. Magni and E. F. Camacho, Min-max model predictive control of nonlinear systems: a unifying overview on stability , European Journal of Control, 15(1), 5-21, 2009	74	122	1.944
23. L. Magni, D. M. Raimondo, C. Dalla Man, M. Breton, S. Patek, G. de Nicolao, C. Cobelli, and B. Kovatchev. Evaluating the efficacy of closed-loop glucose regulation via control-variability grid analysis (CVGA) . Journal of Diabetes Science and Technology, 2(4), 630-635, 2008	110	144	1.78
24. E. Franco, L. Magni, T. Parisini, M. M. Polycarpou and D. M. Raimondo, Cooperative Constrained Control of Distributed Agents with Nonlinear Dynamics and Delayed Information Exchange: a Stabilizing Receding Horizon Approach , IEEE Transactions on Automatic Control, 53(1), 324-338, 2008	101	142	4.270

25. L. Magni, D. M. Raimondo, L. Bossi, C. Dalla Man, G. De Nicolao, B. Kovatchev and Claudio Cobelli, Model Predictive Control of type 1 diabetes: an in silico trial , Journal of Diabetes Science and Technology, 1(6), 804-812, 2007	175	238	1.78
26. D.M. Raimondo, L. Magni and R. Scattolini, Decentralized MPC of Nonlinear Systems: an Input-to-State Stability Approach , International Journal of Robust and Nonlinear Control, 17(17), 1651-1667, 2007	78	113	3.393
27. C. Dalla Man, D. M. Raimondo, R. A. Rizza, C. Cobelli, GIM, Simulation Software of Meal Glucose-Insulin Model , Journal of Diabetes Science and Technology, 1(3), 323-330, 2007	132	214	1.78
28. L. Magni, D. M. Raimondo and R. Scattolini, Regional Input-to-state Stability for Nonlinear Model Predictive Control , IEEE Transactions on Automatic Control, 51(9), 1548-1553, 2006	111	148	4.270

Patents	Citations Scopus	Citations Scholar Google
1. Magni L. D. M. Raimondo, G. De Nicolao, C. Dalla Man and C. Cobelli Predictive Control Based System And Method For Control Of Insulin Delivery In Diabetes Using Glucose Sensing , US Patent App. 12/740,275, 2010		15

Book Chapters	Citations Scopus	Citations Scholar Google
1. F. Tedesco, D. M. Raimondo, A. Casavola, A distributed reference management scheme in presence of non-convex constraints: an MPC based approach , Intelligent Systems, Control and Automation: Science and Engineering 69, 243-257, 2014	2	2
2. D. M. Raimondo, S. Rivero, S. Summers, C.N. Jones, J. Lygeros, M. Morari, A set theoretic method for verifying feasibility of a fast explicit nonlinear Model Predictive Controller , Lecture Notes in Control and Information Sciences, 417, 289-311, 2012	6	13
3. D. M. Raimondo, D. Limon, T. Alamo and L. Magni, Robust Model Predictive Control Algorithms for Nonlinear Systems: an Input-to-State Stability Approach , Model Predictive Control, Tao Zheng (Ed.), ISBN: 978-953-307-102-2, Sciyo, 2010		7

4. D. Limon, T. Alamo, D. M. Raimondo, J. M. Bravo, D. Munoz de la Pena, A. Ferramosca and E. F. Camacho, Input-to-State Stability: an unifying framework for Robust Model Predictive Control , Nonlinear Model Predictive Control, LNCIS 384, pp. 1-26, 2009	87	152
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International Conferences	Citations Scopus	Citations Scholar Google
1. A. Pozzi, G. Ciaramella, S. Volkwein, D.M. Raimondo, Optimal design of experiment for parameter estimation of a Single Particle Model for lithium-ion batteries , CDC 2018, accepted		
2. B. Rego, D. M. Raimondo, G. V. Raffo, Path Tracking Control with State Estimation based on Constrained Zonotopes for Aerial Load Transportation , CDC 2018, accepted		
3. A. Mosca, A. Pozzi, D.M. Raimondo, Stochastic Optimal Power Flow in islanded grids with renewable penetration, energy storage systems and possible curtailments , ICSTCC 2018, accepted		
4. A. Pozzi, M. Torchio, D.M. Raimondo, Assessing the performance of model-based energy saving charging strategies in Li-ion cells , CCTA 2018, accepted		
5. A. Pozzi, M. Torchio and D.M. Raimondo, Film growth minimization in a Li-ion cell: a Pseudo Two Dimensional model-based optimal charging approach , ECC '18		
6. B. Santana Rego, D.M. Raimondo, G.V. Raffo, Set-based state estimation of nonlinear systems using constrained zonotopes and interval arithmetic , ECC '18		
7. G. R. Marseglia, D. M. Raimondo, L. Magni, A. Mesbah, A Probabilistic Framework for Reference Design for Guaranteed Fault Diagnosis under Closed-loop Control , CDC 2017		
8. G. Galuppini, C. Toffanin, D.M. Raimondo, A. Provera, X. Yong, R. Rolfi, G. Ferrante, L. Magni, Towards a Model-Based Field-Frequency Lock for NMR , IFAC WC 2017		
9. F. Acerbi, C. De Luca, G. De Nicolao, D.M. Raimondo, Black-box identification for efficient chiller management in an SM plant , 17th European Advanced Process Control and Manufacturing Conference		
10. S. Lucia, M. Torchio, D.M. Raimondo, R. Klein, R.D. Braatz, R. Findeisen, Towards adaptive health-aware charging of Li-ion batteries: a real-time predictive control approach using first-principles models , ACC 2017		

11. M. Torchio, L. Magni, R.D. Braatz, D.M. Raimondo, Optimal Charging of a Li-ion Cell: A Hybrid Model Predictive Control Approach , CDC 2016	2	2
12. D.M. Raimondo, F. Boem, A. Gallo, T. Parisini, A Decentralized Fault-Tolerant Control scheme based on Active Fault Diagnosis , CDC 2016		
13. F. Acerbi, S. Grassi, D.M. Raimondo, Wind Farm Layout Optimization on a Discretized 3D domain , WindEurope Summit 2016, accepted for poster presentation		
14. L.C. Foguth, R.D. Braatz, D.M. Raimondo, Active fault diagnosis for hybrid systems , MTNS 2016		1
15. M. Torchio, L. Magni, R.D. Braatz, and D.M. Raimondo, Optimal Health-aware Charging Protocol for Lithium-ion Batteries: A Fast Model Predictive Control Approach , DYCOPS-CAB 2016	3	3
16. M. Torchio, C. Ocampo-Martinez, L. Magni, M. Serra, R.D. Braatz and D.M. Raimondo, Fast Model Predictive Control for Hydrogen Outflow Regulation in Ethanol Steam Reformers , ACC 2016		
17. L.C. Foguth, J.A. Paulson, R.D. Braatz, and D.M. Raimondo, Fast Robust Model Predictive Control of High-dimensional Systems , ECC 2015	1	1
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21. J.A. Paulson, D.M. Raimondo, R. Findeisen, R.D. Braatz, S. Streif, Active Fault Diagnosis for Uncertain Nonlinear Systems , ECC 2014	7	8
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23. J.K. Scott, G.R. Marseglia, L. Magni, R.D. Braatz, D.M. Raimondo, A Hybrid Stochastic-Deterministic Input Design Method for Active Fault Diagnosis , CDC 2013	9	11
24. D.M. Raimondo, G.R. Marseglia, R.D. Braatz, J.K. Scott, Fault- Tolerant Model Predictive Control with Active Fault Isolation , SysTol 2013	19	31
25. D.M. Raimondo, R.D. Braatz, J.K. Scott, Active Fault Diagnosis using Moving Horizon Input Design , ECC 2013	16	24

26. N. Kariotoglou, S. Summers, D. M. Raimondo, Hierarchical task allocation for multi-agent systems encoded by stochastic reachability specifications , ECC 2013	1	1
27. K.K.K. Kim, D. M. Raimondo, R. D. Braatz, Optimum Input Design for Fault Detection and Diagnosis: Model-based Prediction and Statistical Distance Measures , ECC 2013	4	8
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30. D.M. Raimondo, O. Huber, M. Schulze Darup, M. Mönnigmann, M. Morari, Constrained time-optimal control for nonlinear systems: a fast explicit approximation , NMPC'12, 2012	1	5
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33. D. Axehill, T. Besselmann, D. M. Raimondo and M. Morari, Suboptimal Explicit Hybrid MPC via Branch and Bound , IFAC WC 2011, Milano	5	7
34. D. M. Raimondo, S. Rivero, C. N. Jones and M. Morari, A robust explicit nonlinear MPC controller with input-to-state stability guarantees , IFAC WC 2011, Milano	5	11
35. M. Rubagotti, D. M. Raimondo, C. N. Jones, L. Magni, A. Ferrara and M. Morari, A Nonlinear Model Predictive Control Scheme with Multirate Integral Sliding Mode , 8th IFAC Symposium on Nonlinear Control Systems, Bologna, September 2010	2	2
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41. M. Rubagotti, D. M. Raimondo, A. Ferrara and L. Magni, Robust model predictive control of continuous-time sampled-data nonlinear systems with integral sliding mode , European Control Conference 2009, ECC'09, 23-26 August 2009, Budapest, Hungary		12
42. D. Limon, T. Alamo, D. M. Raimondo, J. M. Bravo, D. Munoz de la Pena and E. F. Camacho, Input-to-State Stability: an unifying framework for Robust Model Predictive Control , International Workshop on Assessment and future directions of NMPC (Keynote), September 5-9, 2008, Pavia, Italy		
43. L. Magni, D. M. Raimondo, S. Rivero, C. Dalla Man, G. De Nicolao and C. Cobelli Nonlinear model predictive control of glucose concentration for Type-1 diabetic patients , International Workshop on Assessment and future directions of NMPC, September 5-9, 2008, Pavia, Italy		
44. M. Rubagotti, D. M. Raimondo, A. Ferrara and L. Magni, Robust nonlinear MPC with integral sliding mode for systems with matched disturbances , International Workshop on Assessment and future directions of NMPC, September 5-9, 2008, Pavia, Italy		2
45. L. Magni, D. M. Raimondo, C. Dalla Man, G. De Nicolao, B. Kovatchev and C. Cobelli, Model Predictive Control of glucose concentration in subjects with type 1 diabetes: an in silico trial , 17th IFAC World Congress July 6-11, 2008, Seoul, Korea	16	26
46. B. Kovatchev, D. M. Raimondo, M. Breton, S. Patek and C. Cobelli, In Silico Testing and in Vivo Experiments with Closed-Loop Control of Blood Glucose in Diabetes , 17th IFAC World Congress July 6-11, 2008, Seoul, Korea	3	5
47. G. Pin, L. Magni, T. Parisini, D. M. Raimondo, Robust Receding- Horizon Control of Nonlinear Systems with State Dependent Uncertainties: an Input-to-State Stability Approach , 2008 American Control Conference, June 11-13, 2008, Westin Seattle Hotel, Seattle, Washington, USA	10	14
48. D. M. Raimondo, L. Magni, G. De Nicolao, C. Dalla Man and C. Cobelli, Assessing the effect of sc insulin absorption delay on closed-loop glucose control , 27th Workshop of the AIDPIT Study Group, 2nd European Diabetes Technology and Transplantation Meeting (EuDTT), Innsbruck-Igls / Austria, Jan 27-29, 2008		

49. D. M. Raimondo, T. Alamo, D. Limon and E. F. Camacho, Towards the practical implementation of Min-Max Nonlinear Model Predictive Control , 46 th IEEE Conference on Decision and Control, New Orleans, LA, USA, December 12- 14 2007	9	15
50. D. M. Raimondo, L. Magni, C. Dalla Man, G. De Nicolao, B. Kovatchev and C. Cobelli, Closed-loop control of glucose concentration in subjects with type 1 diabetes , Diabetes Technology Society, Seventh Annual Meeting, San Francisco Airport Hyatt Regency Hotel, October 25-27, 2007		
51. D. M. Raimondo, L. Magni and R. Scattolini, Decentralized Open-Loop MPC of Nonlinear Systems: an Input-to-State Stability Approach , European Control Conference 2007, Kos, Greece 2-5 July 2007		
52. D. M. Raimondo, L. Magni and R. Scattolini, A Decentralized MPC Algorithm for Nonlinear Systems , NOLCOS 2007, Pretoria, South Africa, August 2007		
53. D. M. Raimondo, D. Limon, M. Lazar, L. Magni and E. F. Camacho, Regional Input-to-State Stability of Min-Max Model Predictive Control , NOLCOS 2007, Pretoria, South Africa, August 2007		
54. L. Magni, C. Dalla Man, D. M. Raimondo, G. De Nicolao, B. Kovatchev and C. Cobelli, NMPC of glucose concentration in subjects with type 1 diabetes, Nonlinear Model Based Control - Software and applications (NMPC - SOFAP, 2007) , April 19-20, Loughborough, UK, 2007		
55. L. Magni, D. M. Raimondo and R. Scattolini, Input-to-state Stability for Nonlinear Model Predictive Control , 45th IEEE Conference on Decision and Control, San Diego, California USA, December 13-15, 2006	7	9
56. D. M. Raimondo and L. Magni, A Robust Model Predictive Control Algorithm for Nonlinear Systems with a Low Computational Burden , IFAC Workshop on Nonlinear Model Predictive Control for Fast Systems 2006, Grenoble, France, Oct 9-11, 2006		11

Submitted

1. B.S. Rego, G.V. Raffo, J.K. Scott, D.M. Raimondo **New methods for set-valued state estimation of nonlinear discrete-time systems**, Automatica, submitted
2. A. Pozzi, M. Zambelli, A. Ferrara, D.M. Raimondo, **Nonlinear Model Predictive Control in Balancing During Charge of Series Connected Li-Ion Cells**, IEEE Transactions on Control Systems Technology, submitted
3. G. Galuppini, R. Rolfi, C. Toffanin, D.M. Raimondo, Y. Xia, G. Ferrante, L. Magni, **Towards a Model-Based Field-Frequency Lock for NMR: Experimental Validation**, Transactions on Control System Technology, ready for submission